# APPENDIX (I)

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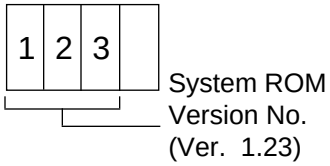
# 1. Test Mode

## 1. Operation Procedures

The Test mode program enables a service technician to check the operation of each electrical component in the machine.

1. **[Starting Up Test mode]**
   Turn on the power, pressing down both the **"LINE/PHOTO"** and **"M/P"** buttons on the main panel.
   If the Test mode is activated, the following indication will be displayed in the print quantity display.

   **- This is a sample of the initial condition of Test mode:**

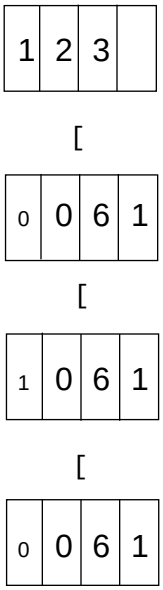
2. **[Checking the Operation of a Component]**
   To check the operation of a component, select a test No. using panel keys and then press the **"START"** button to start the test.

   **The figures in the print quantity display mean:**
   - The right-side two digits: The test No. selected
   - The left-side one digit: **0** for the "Test OFF" status
     **1** for the "Test ON" status

   If the test is a one-cycle operation test, it will automatically stop after one check.
   If the test is a non-cycle operation test, press the **"START"** button again to stop the test.

   **[Print quantity display]**

   **[Example]** - In selecting Test mode No.61

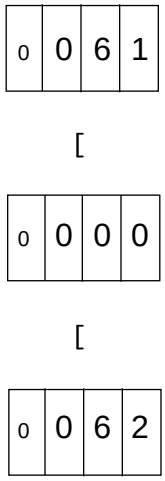
   
   

   Select test No.**61** using panel keys.

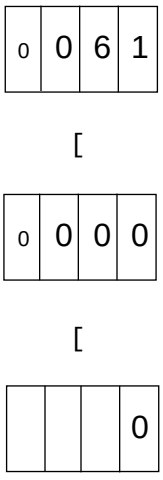
   Press the **"START"** button.

   Press the **"START"** button again.

**3. [Selecting Another Test mode]**
To select another Test mode, clear the set Test No. by pressing the **"C"** or **"STOP"** button and select another Test No..




**4. [Exiting from the Test mode]**
To exit from a Test mode, clear the set Test No. by pressing the **"C"** or **"STOP"** button and then press the **"ALL RESET"** button.



## 2. Test Items and Operations

### 1) Sensor/SW Test

A beep sounds in two ways to tell the current condition.

Detection: 0.1 second interval beep
No detection: 0.5 second interval beep

| No | Test Component | Detection Status | 4200 | 4900 | 5900 |
|---|---|---|---|---|---|
| 01 | Paper detection sensor | Reflected light is detected. | ○ | ○ | ○ |
| 02 | Paper size sensor | Reflected light is detected. | × | ○ | ○ |
| 03 | Elevator lower limit sensor | Light path is blocked. | ○ | ○ | ○ |
| 04 | Paper feed pressure switch | The switch is released. | × | ○ | ○ |
| 05 | Master loading button | The button is pressed. | ○ | ○ | ○ |
| 06 | Paper sensor | Light path is blocked. | ○ | ○ | ○ |
| 07 | Pressure detection sensor | Light path is blocked. | ○ | ○ | ○ |
| 08 | Position A sensor | Light path is blocked. | ○ | ○ | ○ |
| 09 | 0° Angular sensor | Magnetism is detected. | ○ | ○ | ○ |
| 10 | 180° Angular sensor | Magnetism is detected. | ○ | ○ | ○ |
| 11 | Position C sensor | Light path is blocked. | ○ | ○ | ○ |
| 12 | Feed-tray down button | The button is pressed. | ○ | ○ | ○ |
| 13 | Clamp safety switch | The switch is pressed. | ○ | ○ | ○ |
| 14 | Master sensor | Reflected light is detected. | ○ | ○ | ○ |
| 15 | Master positioning sensor | Reflected light is detected. | ○ | ○ | ○ |
| 16 | Drum home position button | The button is pressed. | ○ | ○ | ○ |
| 17 | Ink bottle switch | The switch is pressed. | ○ | ○ | ○ |
| 18 | Drum set switch | The switch is pressed. | ○ | ○ | ○ |
| 19 | Paper receiving sensor 1 | Light path is blocked. | ○ | ○ | ○ |
| 20 | Paper receiving sensor 2 | Light path is blocked. | ○ | ○ | ○ |
| 21 | Upper cover set switch | The switch is pressed. | ○ | ○ | ○ |
| 22 | Vertical centering sensor | Light path is blocked. | ○ | ○ | ○ |
| 23 | Master end sensor | No reflected light. | ○ | ○ | ○ |
| 24 | Paper feed clutch sensor | Light path is blocked. | ○ | ○ | ○ |
| 25 | Paper feed det. sensor | Light path is blocked. | ○ | ○ | ○ |
| 26 | Jump wing switch 1 | The switch is pressed. | × | ○ | ○ |
| 27 | Jump wing switch 2 | The switch is pressed. | × | ○ | ○ |
| 28 | Master removal sensor | Light path is blocked. | ○ | ○ | ○ |
| 29 | Master loading unit switch | The switch is pressed. | ○ | ○ | ○ |
| 30 | Front cover set sensor | Metal plate is attached. | ○ | ○ | ○ |

NOTE: The status of the Elevator upper limit sensor can be checked by LED on the Motor control PCB. The LED lights up when the light path of the sensor is NOT blocked.

### 1) Sensor/SW Test

A beep sounds in two ways to tell the current condition.

Detection: 0.1 second interval beep
No detection: 0.5 second interval beep

| No | Test Component | Detection Status | 4200 | 4900 | 5900 |
|---|---|---|---|---|---|
| 31 | TPH home position switch | The switch is pressed. | ○ | ○ | ○ |
| 32 | TPH pressure switch | The switch is pressed. | × | ○ | ○ |
| 33 | Disposal box set switch | The switch is pressed. | ○ | ○ | ○ |
| 34 | ADF original detection sensor | Light path is opened. | × | ○ | ○ |
| 35 | Original registration sensor | Light path is opened. | ○ | ○ | ○ |
| 36 | Original IN sensor | Light path is blocked. | ○ | ○ | ○ |
| 37 | Ink sensor | Ink is detected. | ○ | ○ | ○ |
| 38 | Overflow sensor | Ink is detected. | ○ | ○ | ○ |
| 39 | Main motor interlock switch | The switch is pressed. | ○ | ○ | ○ |
| 40 | Paper feed safety switch | The switch is released. | ○ | ○ | ○ |
| 41 | Paper feed cassette SW1 | Magnetism is detected. | × | × | × |
| 42 | Paper feed cassette SW2 | Magnetism is detected. | × | × | × |
| 43 | Paper feed cassette Sw3 | Magnetism is detected. | × | × | × |
| 44 | Paper feed cassette SW4 | Magnetism is detected. | × | × | × |
| 45 | Original OUT sensor | Light path is blocked. | ○ | ○ | ○ |
| 46 | ADF switch | The switch is pressed. | ○ | ○ | ○ |
| 47 | Master detection sensor | Reflected light detected. | ○ | ○ | ○ |
| 48 | Master loading sensor | Reflected light detected. | ○ | ○ | ○ |
| 49 | Scanner home position sensor | Light path is blocked. | × | × | ○ |
| 50 | Scanner ADF shading sensor | Light path is blocked. | × | × | ○ |
| 51 | Stage cover sensor | Light path is blocked. | × | × | ○ |
| 52 | Flat bed original det. sensor | Reflected light detected. | × | × | ○ |
| 53 | Pressure control sensor | Light path is blocked. | ○ | ○ | ○ |
| 54 | | | | | |
| 55 | | | | | |
| 56 | | | | | |
| 57 | | | | | |
| 58 | Battery detection signal | Battery is attached. | ○ | ○ | ○ |
| 59 | Option PCB detection signal | Option PCB is attached. | ○ | ○ | ○ |

NOTE: The status of the Elevator upper limit sensor can be checked by LED on the Motor control PCB. The LED lights up when the light path of the sensor is NOT blocked.

**2) Motor/Solenoid Test**

| No. | Test Item | No. | Test Item |
|---|---|---|---|
| 60 | 15 rpm Drum rotation | 71 | Master removal solenoid & Vertical transport motor |
| 61 | 30 rpm Drum rotation | 72 | Loading fan |
| 62 | Variable speed Drum rotation | 73 | Clamp solenoid |
| 63 | | 74 | Lock solenoid |
| 64 | Separation Fan | 75 | Shading solenoid (4200 & 4900 only) |
| 65 | Write pulse motor CW (Feed) | 76 | Pickup solenoid |
| 66 | Loading pulse motor | 77 | Thermal power control |
| 67 | Paper feed clutch | 78 | Pickup motor |
| 68 | Pressure solenoid | 79 | LED array in Image scanner ON |
| 69 | Suction motor (fan) | 80 | Wing motor (5900 only) |
| 70 | | | |

* Refer to the page on the "Memory Switch" for the Test modes **No.81** through **87**.

**3) Memory Clear and Counter Stop, etc.**

| No. | Test Item |
|---|---|
| 90 | **Partial Memory Clear**<br>Certain portion of RAM contents in the System PCB, such as Jam and Trouble messages, will be initialized.<br>(The same operation as when turning the power ON while pressing All Reset button.) |
| 91 | **Master Making Width Check** (4900 & 5900 only) |
| 92 | **Prevention of the following operations: master and copy counting, Key/card counter and [E17] error signal display (for dead battery)**<br>• In normal operation, the Master count and Copy count signals will not be output, allowing a service technician to print without increasing the digit of the Master and Copy counters.<br>• The machine will be released from this condition when the power is turned off. |
| 97 | **All Memory Clear**<br>All RAM contents in the System PCBs, excluding Memory switch settings by Test modes No.81 through 87, will be initialized.<br>**NOTE: This test mode must be done each time System ROM or System PCB is changed.** |
| 98 | **Memory Switch Clear**<br>Memory switch setting by Test modes No.81 through 87 will be initialized.<br>**This test mode must be done each time System PCB is changed.**<br>**[CAUTION]**<br>**Do not use this test mode in normal operation.**<br>**All the programmed Memory switch settings in the machine will be initialized.** |

**4) Sequential Operation Test**

| No. | Test Item |
|---|---|
| 101 | **Ink motor operation**<br><br>A blank master is loaded on the Drum and the Auto idling operation starts.<br>At the same time, the Inking motor operates to supply ink into the Squeegee until the Ink Sensor detects ink and the Drum stops at the "A" detection (Home) position.<br>• This test mode is used when filling an Inkless Drum with ink. |
| 102 | **Elevator motor Up/Down operation**<br><br>The following operations will be repeated while pressing down the Feed-tray down button.<br>• PRESS m Elevator UP m Upper limit sensor "ON" m Elevator Stop<br>• PRESS m Elevator Down m Lower limit sensor "ON" m Elevator Stop |
| 103 | **Print positioning motor CW/CCW rotation (one-cycle check)**<br><br>Return to vertical center position m One second halt m CW (+) direction rotation m One second halt m CCW (-) direction rotation m One second halt m Return to vertical center position m Stop. |
| 104 | **Clamp plate Open/Close operation** (Press START button again to stop)<br><br>Rotate Drum to Home position m Open Clamp plate (180°) m One second halt m Close Clamp plate (0°) m Rotate Drum to home position (Then go back to the first step). |
| 105 | **ADF Original feed operation** (Press START button again to stop)<br><br>Pick-up one original m Shading operation m Feed original m Eject original m Original detection sensor ON m Pick-up one original (Repeats this cycle until START button is pressed.)<br>(4200 & 4900 only) |
| 106 | **Confidential operation (Repeated by three cycles)**<br><br>Confidential operation m Pressure solenoid ON (one time Drum rotation) m Pressure solenoid OFF (five times Drum rotation).<br>(This is repeated three times and the machine stops.) |
| 107 | **Paper feed & Printing operation** (Press START button again to stop)<br><br>The paper feed tray raises and the paper is continuously fed until paper supply runs out.<br>Note: • The Copy counter does not operate and paper jam is not detected.<br>• Paper feed tray will be automatically lowered without paper.<br>• Ink can be supplied by the Inking motor.<br>• Printing speed & density keys can be operated. |

**4) Sequential Operation Test**

| No. | Test Item |
|---|---|
| 108 | **Flat bed read pulse motor (scanner) movement** (Press START button again to stop)<br><br>Image scanner home position sensor (2 sec. halt) M Image scanner shading sensor (2 sec. halt) M FB-ADF scanning position (2 sec. halt) M Image scanner home position sensor (2 sec. halt) • • • (This is repeated until START button is pressed.)<br><br>(5900 only) |
| 109 | **Machine aging operation**<br><br>130 rpm Drum rotation M 3000 times Magnet A detection M Stop. |
| 110 | **Elevator aging operation**<br><br>UP M Upper limit sensor ON M Stop M DOWN M Lower limit sensor ON M Stop M UP (This cycle is repeated for 5000 times) M Stop. |
| 111 | **Thermal pressure motor**<br><br>If the TPH home position switch is pressed:<br>• TPH is lowered M TPH pressure switch is pressed M Stop.<br><br>If the TPH pressure switch is pressed:<br>• TPH is raised M TPH home position switch is pressed M Stop. |
| 112 | **Cutter motor ON [One-cut operation]** |
| 113 | **FB-ADF Original feed operation** (Press START button again to stop)<br><br>Pick-up one original M Feed original M Eject original M Original detection sensor ON M Pick-up one original (Repeats this cycle until START button is pressed.)<br><br>(5900 only) |
| 114 | **Pressure control motor**<br><br>Center position M One second halt M Rotates to pressure setting No.12 M Rotates to pressure setting No.1 M Returns to center position (This cycle is repeated three times) M Stop. |
| 115 | **Ink Thermistor check**<br><br>Ink thermistor is defective if "00" or "FF" is shown on the display.<br>All other numbers indicate the thermistor is in good condition.<br>* Displayed number is not the temperature. |

**4) Sequential Operation Test**

| No. | Test Item |
|---|---|
| 116 | **TPH Thermistor check**<br><br>TPH thermistor is defective if "00" or "FF" is shown on the display.<br>All other numbers indicate the thermistor is in good condition.<br>* Displayed number is not temperature. |
| 117 | **Thermal print head check operation 1**<br><br>Makes a master of test pattern #1 memorized in the Image processing PCB. |
| 118 | **Thermal print head check operation 2**<br><br>Makes a master of test pattern #2 memorized in the Image processing PCB. |
| 119 | **Thermal print head check operation 3**<br><br>Makes a master of test pattern #3 memorized in the Image processing PCB.<br>(4900 & 5900 only) |
| 120 | **Thermal print head check operation 4**<br><br>Makes a master of test pattern #4 memorized in the Image processing PCB.<br>(4900 & 5900 only) |

# 2. Memory Switch

The Memory switch settings can be reprogrammed to make fine adjustments in Image scanning and Master making. The Memory switch mode is started up by the same method as with Test mode. These Memory switch settings are not initialized by Test Mode No.90 or 97.

**Caution:**

**Do not use** Test mode **No.98** in normal operation.
Test mode No.98 initializes all the Memory switch settings made on the machine.

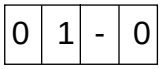
| Memory Switches | 4200 | 4900 | 5900 |
|---|---|---|---|
| **Memory Switch No.81** (Test mode No.81) • • • • • Refer to page VI-37<br>[ Image Scanner ADF Home Position Adjustment]<br>Adjusts the position of the Image scanner against the White roller (Read roller) to sharpen the blurred image caused by incorrect positioning of the Image scanner. | × | × | ○ |
| **Memory Switch No.82** (Test mode No.82) • • • • • Refer to page VI-32<br>[ Scanning Start Position Adjsutment ]<br>When scanning on the Stage glass without selecting the BOUND BOOK CENTER mode. | × | × | ○ |
| **Memory Switch No.83** (Test mode No.83) • • • • • Refer to page V-23<br>Refer to page VI-36<br>[ Horizontal Scanning Position Adjustment ]<br>When using ADF Unit for scanning. | ○ | ○ | ○ |
| **Memory Switch No.84** (Test mode No.84) • • • • • Refer to page VI-36<br>[ Horizontal Scanning Position Adjustment ]<br>When scanning on the Stage glass. | × | × | ○ |
| **Memory Switch No.85** (Test mode No.85) • • • • • Refer to page VII-17<br>[ Master Making length (Write Pulse Motor Operation Time) Adjustment ]<br>Adjusts the master making length by controlling the operation time of the Write pulse motor. | ○ | ○ | ○ |
| **Memory Switch No.86** (Test mode No.86) • • • • • Refer to page V-21<br>Refer to page VI-33<br>[ Scanning Start Position Adjustment ]<br>When using ADF Unit for scanning. | ○ | ○ | ○ |
| **Memory Switch No.87** (Test mode No.87) • • • • • Refer to page VI-32<br>[ Scanning Start Position Adjustment ]<br>When scanning on the Stage glass with BOUND BOOK CENTER mode selected. | × | × | ○ |

# 3. Users Mode

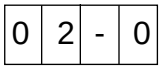
The Users Mode program enables a machine operator to select the initial operation settings of the machine.
This mode is explained in "User Guide" and is intended for customers to make a selection if required.
**NOTE:** The selections in boldface in the chart below are the standard initial settings (at factory shipment).

**1. [Starting Up Users Mode]**
Turn ON the power.
Press **8** key of the print quantity keys while pressing down the * key.
This makes access to the User mode.

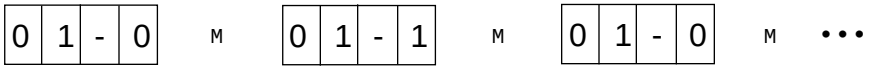
**2. [Making Selections]**
After the access is made, select the item(s) whose initial setting is required to be changed.
The first item which appears on the display is item No. 01.




If another item is desired, select it using the print quantity keys.
When selecting item No.02, for example, press "0" and "2".




Now choose either of the two initial settings for the selected item.
The selection is made by pressing the "START" button.
The digit in the far right column of the display changes from "0" to "1" or "1" to "0".
"0" and "1" appears alternately each time the "START" button is pressed.




Repeat this procedure until all required changes are made.
**To exit from this mode, press the "ALL RESET" button for 1 second.**
**All new initial settings are memorized and the dispaly returns to normal operation.**

| Item Number | Initial Setting Item | Enter "0" (factory setting) | Enter "1" | 4200 | 4900 | 5900 |
|---|---|---|---|---|---|---|
| 01 | Print Speed | **100 sheets/min.** | 60 sheets/min. | ○ | ○ | ○ |
| 02 | Auto Print Feature | **OFF** | ON | ○ | ○ | ○ |
| 03 | Jump Wing operation | **Active** | Inactive | × | ○ | ○ |
| 04 | Displayed Print Q'ty | **0** | 1 | ○ | ○ | ○ |
| 05 | Auto Image Area Limitation | **Active** | Inactive | × | ○ | ○ |
| 06 | Auto Reset Time | **None** | 5 minutes | ○ | ○ | ○ |
| 08 | Auto Idle Period | **12 hours** | 6 hours | ○ | ○ | ○ |
| 09 | Bound Book Center mode | **OFF** | ON | × | × | ○ |
| 10 | Paper Feed Det. Sensor | **Active** | Inactive | ○ | ○ | ○ |
| 11 | Waiting time for the 2nd original when using 2UP | **None** | 15 seconds | × | × | ○ |

# 4. Advice Displays

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 01** | **Main Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the Drum position A is still detected by the Position A detection sensor **2 seconds** after the Main motor started.<br>2) If the Drum position A hasn't been detected by the Position A detection sensor within **5 seconds** after the Main motor is started. | Press **ALL RESET** button. |
| **E 02** | **Elevator Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the actuator of the Elevator upper limit sensor is not raised within **9 seconds** after the Elevator motor started to raise the Paper feed tray.<br>2) If the light path of the Elevator lower limit sensor is not blocked within **9 seconds** after the Elevator motor started to lower the Paper feed tray.<br>3) If the light path of the Elevator lower limit sensor is blocked **2 seconds** after the Elevator motor started to raise the Paper feed tray.<br>4) If the actuator of the Elevator upper limit sensor is still raised **2 seconds** after the Elevator motor started to lower the Paper feed tray. | Press **ALL RESET** button. |
| **E 03** | **Clamp Error 1**<br>Displayed to interrupt the machine operation:<br>1) If the actuator of the Clamp safety switch is still depressed **4 seconds** after the Clamp solenoid was activated (turned on).<br>2) If the actuator of the Clamp safety switch has not been depressed within **4 sec.** after the Clamp solenoid was released (turned off).<br>3) If the Angular magnet has not been detected by the Angular sensor (either 0° or 180°) within **8 seconds** after the Clamp motor started rotating.<br>4) If the actuator of the Clamp safety switch is not depressed when the Clamp solenoid is not in operation. | Press **ALL RESET** button. |
| **E 04** | **Ink Overflow**<br>Displayed to interrupt the machine operation:<br>1) If the Overflow sensor detects excessive ink in the Squeegee unit. | **Overflow sensor** OFF |
| **E 05** | **Print Positioning Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the Vertical centering sensor status has not been changed from ON to OFF (or OFF to ON) within **12 seconds** after the Print positioning motor started rotating. | Press **ALL RESET** button. |
| **E 06** | **Pressure Detection Sensor Malfunction**<br>Displayed to interrupt the machine operation:<br>1) If the Pressure detection sensor status has not been changed from ON to OFF (or OFF to ON) within **8 seconds** after the Main motor started rotating. | Press **ALL RESET** button. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 07** (Only in RA59) | **Communication error between RA and RA Digitizer**<br>Displayed to interrupt the machine operation:<br>1) If a communication error has occurred between the CPU and RA digitizer. | Turn **Power SW** OFF & ON. |
| **E 08** | **Communication error between RA and Interface Accessaries**<br>Displayed to interrupt the machine operation:<br>1) If a communication error has occurred between the CPU and the interface accessaries. | Turn **Power SW** OFF & ON. |
| **E 09** | **Communication error between RA and the Sorters**<br>Displayed to interrupt the machine operation:<br>1) If a communication error has occurred between the CPU and the sorters. | Turn **Power SW** OFF & ON. |
| **E 10** (Only in RA59) | **Malfunction of Trimming PCB**<br>Displayed to interrupt the machine operation:<br>1) If data signals such as original size, are not output from the **Trimming PCB** at the start of the image scanning operation. | Press **ALL RESET** button. |
| **E 11** | **Pressure Control Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the pulse from the Encoder disc on the Pressure control motor has not been detected within **100ms** from the start of the Pressure control motor.<br>2) If the Pressure centering sensor status has not been changed from ON to OFF (or OFF to ON) within **5 seconds** from the start of the Pressure control motor. | Press **ALL RESET** button. |
| **E 12** | **Machine Model Selection Error**<br>Displayed to prevent the machine operation:<br>The SW2 (HEX SW) selection on the System PCB is set to "Not Used" position. | Turn **Power SW** OFF & ON. |
| **E 13** | **Cutter Motor Lock**<br>Displayed to interrupt the machine operation in master-making and confidential process:<br>1) If master is detected by the Master positioning sensor at Drum A position after the cutting operation and besides it is still detected by the Master positioning sensor at the next Drum A position detection after the second cutting operation. | **Drum Set SW** OFF & ON |
| **E 14** | **Clamp Error 2**<br>Displayed to interrupt the machine operation:<br>1) If the actuator of the Clamp safety switch is not depressed when the Clamp solenoid is not in operation. | Press **ALL RESET** button. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 15**<br>Only in RA59 | **Flat Bed Read Pulse Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the Image scanner home position sensor does not detect the Image scanner within **18898 pulses** after the Flat bed read pulse motor is activated.<br>2) If the Image scanner ADF Shading sensor does not detect the Image scanner within **15748 pulses** after the Flat bed read pulse motor is activated.<br>3) If the Image scanner is not release from the Image scanner home position sensor within **314 pulses** after the Flat bed read pulse motor is activated.<br>4) If the Image scanner is not released from the Image scanner ADF Shading sensor within **314 pulses** after the Flat bed read pulse motor is activated. | Press **ALL RESET** button |
| **E 16** | **Position C Sensor Malfunction**<br>Displayed to interrupt the machine operation:<br>1) If the Position C sensor status has not been changed from ON to OFF (or OFF to ON) within **8 seconds** from the start of the Main Motor. | Press **ALL RESET** button. |
| **E 17** | **Replace Battery**<br>Displayed to interrupt the machine operation:<br>1) If the Battery detection signal is OFF at either of following three cases.<br><1> when the machine power is turned ON <2> when All reset button is pressed <3> at the end of machine operation. | Press **ALL RESET** button. |
| **E 18** | **Sorter Error**<br>Displayed to interrupt the machine operation:<br>1) If an error signal is received from the sorter. | Turn **Power SW** OFF & ON. |
| **E 19** | **Thermal Pressure Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If the TPH Pressure switch has not been depressed within **4 seconds** after the TPH Pressure motor was activated to lower the TPH.<br>2) If the TPH Pressure switch has not been released within **4 seconds** after the TPH Pressure motor was activated to raise the TPH. | Press **ALL RESET** button. |
| **E 20** | **Wing Motor Lock**<br>Displayed to interrupt the machine operation:<br>1) If neither of the Jump wing sw1 or sw2 has been depressed within **5 seconds** after the Wing motor was activated.<br>2) If neither of the Jump wing sw1 or sw2 has been released within **5 seconds** after the Wing motor was activated. | Press **ALL RESET** button. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 21** | **Master Loading Error (onto the Drum)**<br>Displayed to interrupt the machine operation:<br>1) If the Master load sensor does not detect master at the Drum C-1 position during loading of the master on the Drum. | Open & close the **Master Loading Unit**.<br>Then press **"START"** button. |
| **E 22** | **Master Mis-Feed**<br>Displayed after the master has been loaded onto the Drum in the master making or confidential process:<br>1) If the Master positioning sensor has not detected master material within **787 pulses** (**536 pulses** in confidential process) after the Loading pulse motor started following the master cutting operation.<br>---<br>Displayed to interrupt the machine operation when the Master loading button was pressed:<br>1) If the Master positioning sensor has not detected master material within **1260 pulses** after the Loading pulse motor was turned on.<br>2) If the Master positioning sensor has not detected master material within **787 pulses** after the Loading pulse motor was turned on following the operation of the Cutter motor and the cut master material is removed. | Open & close the **Master Loading Unit**. |
| **E 23** | **Master Cut Malfunction**<br>Displayed to interrupt the machine operation in master-making and confidential process:<br>1) If master is detected by the Master positioning sensor at Drum A position after the cutting operation and besides it is not detected by the Master positioning sensor at the next Drum A position detection after the second cutting operation. | **Drum Set SW** OFF & ON |
| **E 24** | **A Cut Piece of Master Remains inside the Machine**<br>Displayed:<br>1) If the Master positioning sensor detects master material (the reflected light) just after the master cut operation is completed. | Remove the cut master strip. |
| **E 25** | **Master Removal Error**<br>Displayed after the Image scanning and Master making operations are completed or in the confidential operation:<br>1) If the Master removal sensor does not detect a removed master while the Drum rotates from C-1 to A position, during master removal operation.<br>2) If the light path of the Master removal sensor is still blocked by a removed master when the Vertical transport motor stops. | **Drum Set SW** OFF & ON and press **"START"** button again. |
| **E 26** | **Removed Master Jammed at the entrance of Master disposal box.**<br>Displayed:<br>1) If the light path of the Master removal sensor is blocked at the start of master-making operation. | Remove the jammed master. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 27** | **No Master on Drum**<br>Displayed to interrupt the machine operation:<br>1) If the Master sensor does not detect master on the drum at the Drum A position when the printing starts. | Press **ALL RESET** button. |
| **E 31** | **Paper Jam in the Second Paper Feed Area**<br>Displayed to interrupt the machine operation:<br>1) If the Paper sensor malfunctions.<br>2) If the Paper sensor detects paper when the Pressure detection sensor detects the Pressure disc.<br>3) If at the Drum A position, the Paper receiving sensor 1 does not detect paper and at the next Drum A position, the Paper sensor detects the paper. | Remove the jammed paper, or Press **ALL RESET** button. |
| **E 32** | **Paper Jam around Paper Receiving Sensor 1**<br>Displayed to interrupt the machine operation:<br>1) If the Paper receiving sensor 1 detects paper when the Pressure detection sensor detects the Pressure disc.<br>2) If the Paper receiving sensor 2 detects paper when the Paper receiving sensor 1 detects the next sheet of paper. | Remove the jammed paper, or press **ALL RESET** button. |
| **E 33** | **Paper Jam in the First Paper Feed Area**<br>Displayed to interrupt the machine operation:<br>1) If the Paper sensor has not detected paper while the Position A sensor detects the A position three times. | Press **ALL RESET** button. |
| **E 34** | **Paper Jam under the Drum**<br>Displayed to interrupt the machine operation:<br>1) If the Paper receive sensor 1 does not detect paper at the Drum A position and the Paper sensor does not detect the paper at the next Drum A position. | **Drum Set SW** OFF & ON, or Press **ALL RESET** button. |
| **E 36** | **Original Misfeed**<br>Displayed to interrupt the machine operation:<br>1) If the actuator of the Registration sensor is not opened within **1.35 seconds** after the Original pickup motor was turned on. | Remove the original. |
| **E 37** | **Original Jam at Entrance**<br>Displayed to interrupt the machine operation:<br>1) If the Original IN sensor has not detected an original within **630 pulses** after the Read pulse motor was turned on. | Remove the original. |
| **E 38** | **Original Jam or Oversize**<br>Displayed after the master has been loaded onto the Drum:<br>1) If the light path of the Original IN sensor is blocked for **14,173 pulses** (FB type **= 14,803**) after the Read pulse motor is turned on. | Remove the original. |
| **E 39** | **Original Jam at the Exit**<br>Displayed after the master has been loaded onto the Drum:<br>1) If the Original OUT sensor has been blocked for **1,890 pulses** after the Read pulse motor was turned on. | Remove the jammed original. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| Number is not displayed | **Replace Ink Bottle**<br>Displayed to interrupt the machine operation:<br>1) If the Ink sensor does not detect ink in the Squeegee unit within **30 seconds** after the Inking motor was started. | Replace the empty Ink bottle with a new one. |
| Number is not displayed | **Replace Master Roll**<br>Displayed to interrupt the machine operation:<br>1) If the black tape attached at the end of the Master roll has been detected by the Master end sensor during master making or confidential operation. | Replace the depleted Master roll with a new one. |
| Number is not displayed | **Empty Disposal Box**<br>Displayed after the machine operation is finished:<br>1) If the disposed master is detected 40 times (50 for A4-drum models) by the Master removalsensor after the Disposal box was emptied. | Empty the Disposal box. |
| Number is not displayed | **Add Paper**<br>Displayed to interrupt the machine operation:<br>1) If the light path of the Paper detection sensor is open. | Add paper on the **Paper feed tray**. |
| **E 45** | **Non-Compatible Master Roll (1)**<br>Dispalyed to prevent the machine operation:<br>1) If non-compatible master roll is installed in the machine. | **Master detection sensor** OFF & ON. |
| **E 46** | **Non-Compatible Ink Bottle (1)**<br>Displayed to prevent machine operation:<br>1) If non-compatible ink bottle is installed in the machine. | **Ink bottle switch** OFF & ON. |
| **E 47** | **Non-Compatible Master Roll (2)**<br>Displayed to prevent machine operation:<br>1) If non-compatible master roll is installed in the machine. | **Master detection sensor** OFF & ON or press **ALL RE-SET** button. |
| **E 48** | **Non-Compatible Ink Bottle (2)**<br>Displayed to prevent machine operation:<br>1) If non-compatible ink bottle is installed in the machine. | **Ink bottle switch** OFF & ON or press **ALL RESET** button. |
| **E 50** | **Connect "Copy/Master" Counter**<br>Displayed to interrupt or prevent machine operation:<br>1) If the connector of the copy and master counter comes loose or if the counter is removed. | Connect the **Copy & master counter**. |
| **E 51** | **Insert Card into Key/Card Counter**<br>Displayed to prevent the machine operation:<br>1) If an operator card is not set in the Key/Card counter. | Insert the card. |
| **E 52** | **Set Drum in Place**<br>Displayed to prevent the machine operation:<br>1) If the actuator of the Drum set switch is not depressed. | Set the **Drum** in machine. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 53** | **Set Ink Bottle in Place**<br>Displayed to prevent the machine operation:<br>1) If the actuator of the Ink bottle switch is not depressed. | Set the Ink bottle firmly in the **Drum**. |
| **E 54** | **Set Leading Edge of Master Under Green Films**<br>Displayed to prevent the machine operation:<br>1) If the Master detection sensor does not detect master material (the reflected light). | Install a Master roll and insert an edge of Master under **Green films**. |
| **E 55** | **Close Front Cover**<br>Displayed to prevent the machine operation:<br>1) If the metal plate is not attached to the Front cover set sensor. | Press on the lower right part of the **Front cover**. |
| **E 56** | **Close Original Feed Table (Top Cover)**<br>Displayed to prevent the machine operation:<br>1) If the safety switch is not pressed by the Original feed table (Top cover). | Close the **Original feed table.** |
| **E 57** | **Set Master Disposal Box in Place**<br>Displayed to prevent the machine operation:<br>1) If the actuator of the Disposal box set switch is not depressed. | Place the **Master disposal box** in place. |
| **E 58** | **Close Master Loading Unit**<br>Displayed to prevent the machine operation:<br>1) If the actuator of the Master loading unit switch is not depressed. | Close the **Master loading unit**. |
| **E 59** | **Close ADF Unit**<br>Displayed to prevent the machine operation:<br>1) If the actuator of the ADF unit set switch is not depressed. | Close the **ADF unit**. |
| **E 60** | **Paper Feed Tray Emergency Stop**<br>Displayed to interrupt the machine operation:<br>1) If the safety switch over or under the Paper feed tray is activated. | Check and remove any obstacle which activated the **Safety switch**. |
| **E 61** | **Drum Size Error**<br>Displayed to prevent the machine operation:<br>1) If a wrong size drum is set in the machine. | Place a correct size **Drum** in place. |
| **E 62** | **Drum Brand Error**<br>Displayed to prevent the machine operation:<br>1) If a wrong brand drum is set in the machine. | Place a correct brand **Drum** in place. |
| **E 66** | **Ink Bottle / Master Holder Registration Error**<br>Displayed to prevent the machine operation:<br>1) If wrongly registered ink bottle or master holder is set in machine. | Place a correct ink bottle or master roll in place. |
| **E 67** | **PI PCB Missing**<br>Displayed to interrupt the machine operation:<br>1) PI CPB is missing or connecotr disconnected. | Connect the **PI PCB**. |

| No. | Display Condition | Resetting Method |
|---|---|---|
| **E 68** | **Bulk Sheet Feeder Power Malfunction**<br>Displayed to interrupt the machine operation:<br>1) If the Bulk sheet feeder encounters power failure. | Disconnect the **Bulk sheet feeder** from RA. |
| **E 69** | **Bulk Sheet Feeder Error**<br>Displayed to interrupt the machine operation:<br>1) If the Bulk sheet feeder malfunctions. | Press **ALL RESET** button. |
| **E 71** | **Sorter Error - Paper jammed in Sorter**<br>Displayed to interrupt the machine operation:<br>1) If paper has jammed in the sorter. | Open the **Sorter door** and remove the jammed paper. |
| **E 72** | **Sorter Error - Sorter door (or cover) is open**<br>Displayed to prevent the machine operation:<br>1) If the door (or cover) of the sorter is open. | Close the **Sorter door (or cover)**. |
| **E 73** | **Sorter Error - Paper remains in Sorter**<br>Displayed to prevent the machine operation:<br>1) If the sorted sheets remain in the sort bins. | Open the **Sorter door** and remove the sheets. |
| **E 74** | **Sorter Error - Sorter bins are full**<br>Displayed to interrupt the machine operation:<br>1) If the sort bins are full of sorted sheets. | Open the **Sorter door** and remove the sheets. |
| **E 75** | **Sorter Error - Wrong paper size is selected**<br>Displayed to prevent the machine operation:<br>1) If the paper size selection on the sorter does not match with the size of the paper loaded on the Paper feed tray. | Select a correct paper size on the Sorter. |
| **E 76** | **Sorter Error - Unavailable paper size**<br>Displayed to prevent the machine operation:<br>1) If the size of the paper loaded on the Paper feed tray is out of the range of paper size which can be used in the sorter. | Replace the paper on the Paper feed tray with a correct one. |
| **E 79** | **Paper Tape has run out in Job Separator**<br>Displayed to interrupt the machine operation:<br>1) If the Tape end sensor has detected the end of a paper tape roll. | Put a new roll of paper tape in the Job separator. |